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W9KJF

JUNE 1964

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FOUNDED 1914



INDIANAPOLIS RADIO CLUB, INC.
2223 E. 74th Street
Indianapolis 20, Indiana

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2355 STUART ST.
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I would like once more to stress the importance of the role each club member can play in the future of the club. You know and I know that the programs at the club have been well worth the time spent in coming to meetings, so why not spread the word around?

Make it a point to invite a guest to club for the next meeting. Anyone with an interest in radio qualifies. We will even be polite to CBers. In your next QSO with a local, extend an invitation. On your next trip to one of the radio emporiums, introduce yourself to a likely prospect and make like an ambassador of good will from the club. Remember, the larger the crowd, the easier it is to get good programs, and the better the impression we make on the speakers.

The officers of the club can only do so much and from there on it is up to the members, so get busy and let's have to hunt for more chairs at the future meetings. Wat sa?

73 de W9APJ

* * * *

INCENTIVE FOR PROGRESS

For those who oppose Incentive Licensing on the grounds that it is not "right" for certain operating privileges to be "taken away," we call attention to this item from the Auto-Call:

"The Federal Government can change the conditions upon which it grants such a privilege to licensees--as in the situation of FM licensees, who have had to adopt much narrower bandwidths of transmission and reception, obsoleting many public service communications systems that probably cost a quarter billion dollars. Indeed, amateur radio once had to discard all its spark equipment, because Uncle Sam decided than another method of operation was in the public interest.

"Just so, FCC now has before it the problem of improving the amateur radio service, in the public interest, by raising the standards of those amateur operators who use very valuable and desirable parts of the HF spectrum."

PROGRAM PREVIEW

May 22

AUCTION NIGHT complete with door prizes, bargains, and refreshments. Bring your gear and your money and come early for the Swap and Shop and stay late for the auction

June 12

Subject will be announced later, but we will do everything we can to make it a good one, so come on out anyway.

June 26

Night before Field Day. Meeting will be at Field Day site to complete preparations.

* * *

AIRLIFT COMMUNICATIONS

IRC members again supplied communications for Ninety-Nines airlifts on Sunday, April 26. Airlifts had been scheduled at Bloomington and Richmond for April 19, but were rained out. The Richmond airlift has been postponed until May 24. The Bloomington airlift took place April 26, along with one at Sheridan. The sky was overcast all day and rain fell part of the time, but visibility was good enough for local flights part of the time.

About 600 persons took rides at Bloomington, where six aircraft and two helicopters were in use. Nearly 200 got rides at Sheridan, where there also were six planes available. Pat Husk, K9EUQ, operated mobile at the Sheridan airport and kept in touch with the Indiana SCM, Ernie Nichols, W9YYX, at Bloomington, on 75 meters. John Jones, W9FZW, stood by at his home to relay when Pat and Ernie were unable to work direct. Ernie was in touch with Bloomington operator Chuck Hagen, WA9DFQ, who operated on six meters at the Bloomington airport. Messages between the airports were exchanged each hour to keep Ninety-Nines members informed how their project was going.

While this may not seem very exciting, it provided a good drill for amateur operators in maintaining communications with remote locations, and was a good public relations exercise for amateurs. These are two items we all need more experience with.

April 10

Bill Branche, K9CLO, gave the club an informative talk on cubical quad antennas. Bill opened his talk by telling how the engineers at HCJB in Quito, Ecuador, developed the cubical quad to overcome corona and actual melting of the elements of a conventional parasitic array due to the rarified atmosphere at the station's QTH on top of the Andes. Bill explained that a quad can be compared with a full wave folded into a square and demonstrated the phase relationships that give the antenna its directional properties. He said he thought one of the main advantages of the quad was the fact that the height above ground was not as critical as with other antennas. While telling about some of his own experiences with a quad, Bill gave some excellent hints on actual construction along with figures on spacings, lengths, and results to be expected.

April 24

Even without the expected help from the Motorola representative, Walt Smith, WA9BHV, gave the club an interesting program on FM. Walt started by explaining that in true FM the frequency of the modulating audio determines the rate of change of the carrier frequency and in phase modulation the audio shifts the phase of the carrier. At the receiver the difference between the two systems is indistinguishable. Walt said that in FM the percent of modulation is an arbitrary figure and that in modern commercial systems a 5 kc. deviation is considered 100 percent modulation. Walt drew schematics and explained FM and PM transmitters as well as both discriminators and ratio detectors.

WE KEEP TELLING YOU IF YOU DON'T COME TO CLUB YOU ARE GONNA KEEP ON MISSING PROGRAMS LIKE THESE. SEE YOU AT THE NEXT MEETING?

* * *

FOR SALE -- Seneca, nearly new, excellent condition, \$140; Johnson 6 and 2 meter converter for NC-300, factory aligned, \$30; 6 and 2 meter Ameco preamps, \$10 each; Finco 6 and 2 meter beam, \$25. K9KTL LI 7-8148

WOULD-BE COMMUNICATORS NOTE

In keeping with the "progress" of the state of the art of amateur radio, the following excerpts from a bulletin to all Army MARS members is very interesting:

"... an extensive study (by Dept. of the Army) ... concluded that the requirement for a sound and undiminished CW capability ... will continue indefinitely and that pertinent doctrine, training and equipment must be kept compatible with this requirement. ... CW continues to be used in a multitude of tactical radio nets where a high degree of reliability is required. ... (It) is used extensively ... as a standby or backup for RTTY and voice during periods of ... interference, and atmospheric disturbances. The use of CW ... has increased (in) importance of this capability since it is frequently the only effective means of communication due to system or equipment incompatibility, language barriers and frequency congestion."

In other words, CW continues to be the BASIC method of radio communications.

* * *

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LICENSE PLATES

The proposal made a while back by an official of the Indiana Bureau of Motor Vehicles that amateur radio call letter license plates be discontinued has caused quite a stir.

Numerous hams have said, in effect, "They can't do this to us," or "What can we do to stop them?"

First, it should be made clear that call letter plates in Indiana are provided for by state law, so it would take an act of the state legislature to legally stop the issuing of such plates. Presumably, if officials of the Bureau of Motor Vehicles still feel the plates should be discontinued when the next legislature meets in January, then a bill to this effect, engineered by the Bureau, would be introduced in the legislature. So, one way to head off this situation is to convince officials of the Bureau of Motor Vehicles before the next legislature that there is need for these special plates.

Second, contacts by letter, telephone call or personal visit with the members of the next legislature could help determine if legislative action might be taken. It should be pointed out, however, that except for hold-over Senators, all members of the next legislature will be elected next November, in the general election. So, unless your crystal ball is better than most, you won't know whom to contact until in November.

Third, if you want call letter license plates continued, what arguments can you present in their favor? Probably public service would be the main one. All right then, how much public service have YOU performed through amateur radio? How could YOU justify your call letter plate if a member of the legislature would ask you why you want it?

Perhaps this threat of loss of our call letter plates has come at a very good time. It should serve to make each of us realize that amateur radio does not exist purely for the personal enjoyment of a bunch of chatter boxes. One of the cornerstones of amateur radio is public service.

Let's do our level best to keep our call letter plates. But better than that, let's demonstrate that we deserve them by doing our level best to be of genuine public service.

WHAT OTHER STATES CHARGE

To help put into proper focus the complaint made by an official of the Bureau of Motor Vehicles that it costs the State of Indiana too much money to make special license plates for amateur radio operators, the following information on what other states charge has been obtained from the ARRL:

Initial Fee:

- \$1 - Alabama, Georgia, Louisiana, Missouri, Nebraska, North Dakota, Ohio, Wisconsin
- \$2 - Arkansas, Iowa, Michigan, Minnesota, Oklahoma, South Dakota, Connecticut, Texas
- \$3 - Alaska, Arizona, California, Illinois, Nevada, Pennsylvania, Utah, Virginia
- \$5 - Delaware, Maryland, Montana, Oregon, Vermont, West Virginia, New York
- \$10 - Maine

Annual fee:

- California and Illinois, \$3; West Virginia, \$2; Georgia and Texas, \$1.

Equipment required in vehicle:

- Alaska, Maryland, Oklahoma, Virginia.

* * *

GRAHAM'S SPECIALS

Hallicrafter HT-32A	\$405.00
Hallicrafter HT-37	\$340.00
Hallicrafter SX-115	\$425.00
Hallicrafter SR-150 with A/C Supply	\$650.00
Johnson Ranger II	\$189.00
Johnson Invader 200	\$390.00
Johnson Thunderbolt Linear Amp.	\$337.00
Johnson Valiant	\$245.00
Hammarlund HX-500	\$415.00
Hammarlund HX-50	\$369.00
Hunter 2000-A Bandit	\$420.00
Geloso Model GR212TR Transmitter	\$124.50
Gonset G-76 Transceiver with AC & DC Supplies	\$337.00
Globe "Champ" 300 A	\$155.00
Heath TX-1 Apache	\$125.00

PROJECT BEACON

By Don C. Miller W9NTP

It's not too often that an opportunity arises where the average ham can make a contribution to the amateur radio state of the art. Such an opportunity now exists for hams in the Indianapolis area.

First of all, as many of you know, there has been an active group around Indianapolis that has been interested in television, both slow scan and fast scan. The work in slow scan television was started by Cop McDonald of QST fame (see March 1964) some years ago. He achieved a "first" by working with John Plowman in England and succeeded in sending the first transoceanic television across the Atlantic by amateur radio. This was done on 10 meters and was widely publicized in QST. This was several months before Telstar. The reason for slow scan television is obvious when you consider that most "fast scan" TV sends still pictures. By utilizing storage time at the receiver just as much information "picture wise" can be sent by slow scan as fast scan. The attraction of slow scan TV is even greater when you consider that the bandwidth occupied by this type of television is the same as an ordinary voice communication signal. This means that slow scan TV can be sent over an ordinary telephone wire, tape recorded, or transmitted by your ordinary amateur radio transmitter. The mode of transmitting can be sideband, AM, FM, PM, or DSB. During the last ten years the amateurs have been carrying the ball in slow scan and it is only recently that commercial interests have been aroused. Companies like Bell Telephone will begin to use some form of this for future phone television. The IEEE show's first speaker was Cop McDonald speaking on an application of slow scan television.

Now how does this involve the amateurs around Indianapolis? For several months you have been hearing about OSCAR III. Cop McDonald would like for the amateurs around Indianapolis to try to send a slow scan picture through this satellite. He chose us because of the interest of W9NTP, W9KVK, and K9-QYI during the past several years. How can we participate?

OSCAR III will now go up near September of this year. I plan to transmit a picture through the satellite and hope that one of you interested hams will tape record this picture and give it to me to decode. Of course if you wish,

the QST article (March 1964) will show you how you can decode it for yourself.

What is needed to find out when the picture is being transmitted, etc? Previously when I tracked OSCAR I and II the tracking information was passed out on twenty meters from OSCAR Headquarters. I plan on retransmitting locally accurate tracking information on 147.3 mc. FM to the Indianapolis area every hour or so. You will need an antenna and two way FM station on this frequency pointed toward my station at Waldron, Ind. In addition you will need another moveable antenna and converter to listen to my transmission on 144.1 mc. to OSCAR III or the translated transmission on 145.9 mc. from OSCAR. In addition you might want to occasionally listen to the beacon on 145.85 mc. You will need a tape recorder to record any information that you hear on 145.9 mc.

Let's hope that you will record the picture that I send. My set-up at Waldron is a kilowatt on 144.1, an antenna (spiral rays) moveable in both azimuth and elevation. I would like for many of you to participate in this important test and share the fun of being the first amateurs to transmit a picture through a moving satellite. Why not plan to build an OSCAR transmitter and transmit yourself.

If you have any questions or ideas that you would like to have considered, write me at Waldron, Ind. If you know of a friend who may be interested, please pass this information along to him. Come forth with that ham "spirit."

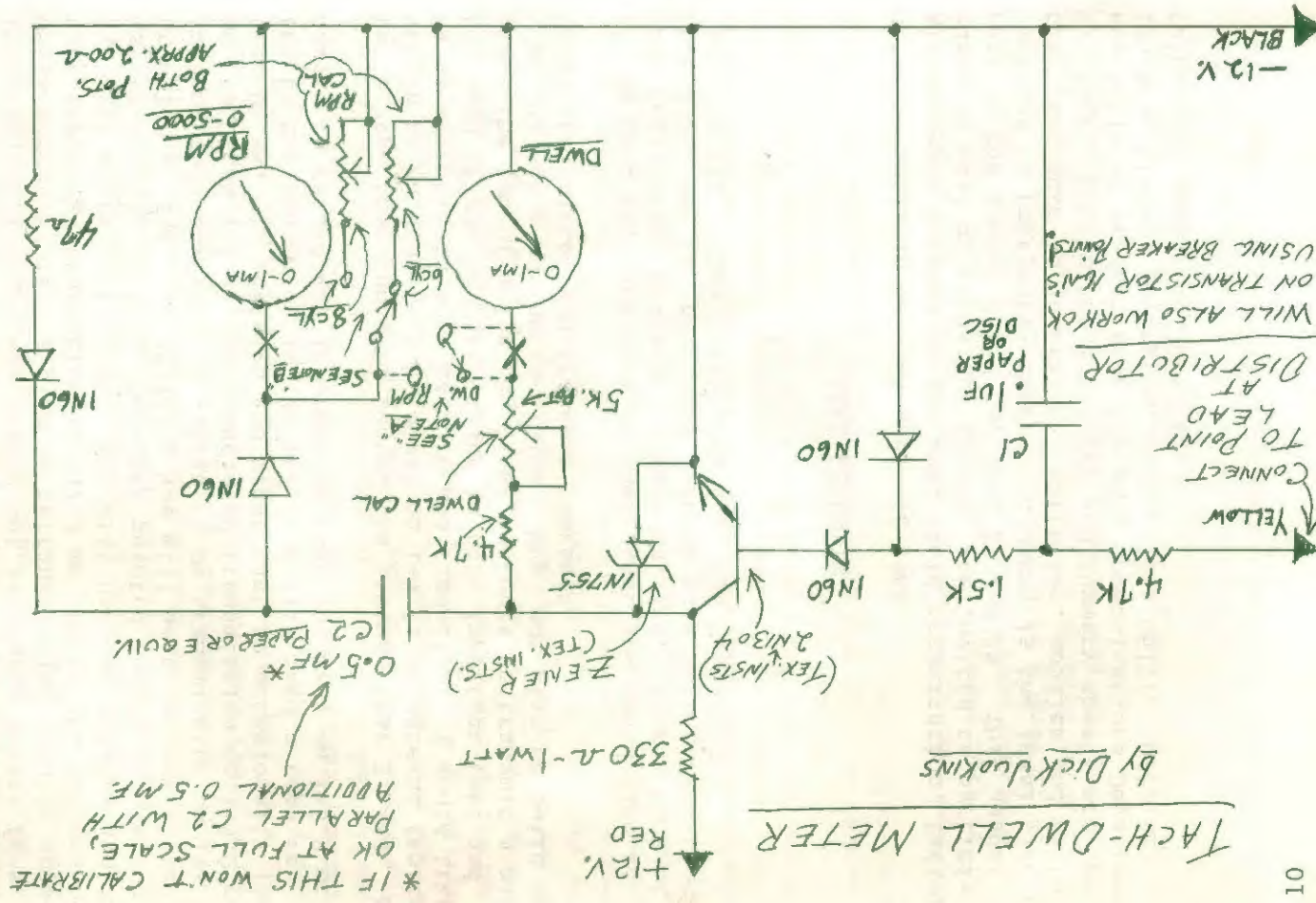
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ARRL BULLETIN

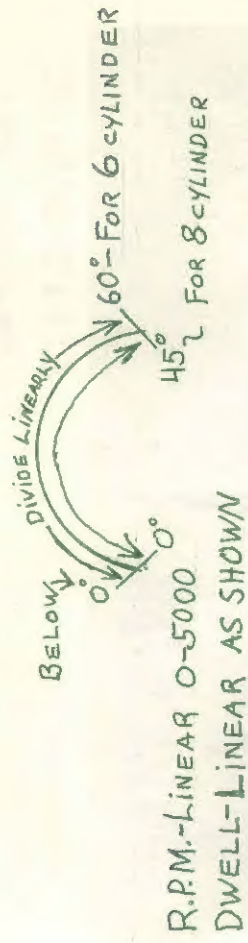
Official Bulletin Nr. 945 April 16 1964

All amateurs located in the ARRL field organization, individuals as well as clubs and groups, are invited to participate in the annual Field Day June 27 and 28. This annual exercise of emergency-powered equipment is the ideal time to test gear such as generators, batteries, mobiles and portable rigs. Convenient log forms and summary sheets are now available on request from the ARRL Communications Department, 225 Main Street, Newington, Connecticut 06111. Official rules will appear in June QST.

Here's the circuit for the Tach-Dwell Meter Dick Judkins described at a recent meeting. Notes on the diagram are on the next page.



METER SCALES



All resistors are $\frac{1}{2}$ watt carbon plus or minus 10% unless noted otherwise.

C2 should be high grade paper or mylar, NOT electrolytic!

NOTE A: Break circuit at X's and wire as shown to measure RPM and dwell with a single 0-1 ma. meter.

NOTE B: The 6-8 cylinder switch may be omitted if desired if unit is made for one car only.

Calibration - RPM: Connect signal to point lead and -12V point; connect power 12 V DC as shown.

Method A: Use accurate audio oscillator and set so RPM meter is full scale at 250 cps for 6 cylinders or 333 cps for 8 cylinders.

Method B: Use 12.6-18 V 60 cycle AC and set so RPM meter is 1200 RPM for 6 cylinders or 900 RPM for 8 cylinders.

Calibration - Dwell: with 12 V DC connected as shown and point lead open, adjust dwell calibration for full scale on dwell meter after 1 minute warmup.

FOR SALE -- HT 32 like new in appearance, factory aligned March, 1964, \$310. John Wilson K9FIP VT 6-8410

Jim Whitmore, formerly W9ZUU, now WA4JNI, reports his present address is 410 N. W. 117th, Miami. He says he can be found nearly every morning on the Intercontinental Sideband Net on 14.330 mc. from 1200 to 1300 GMT.

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PHOTOGRAPHY

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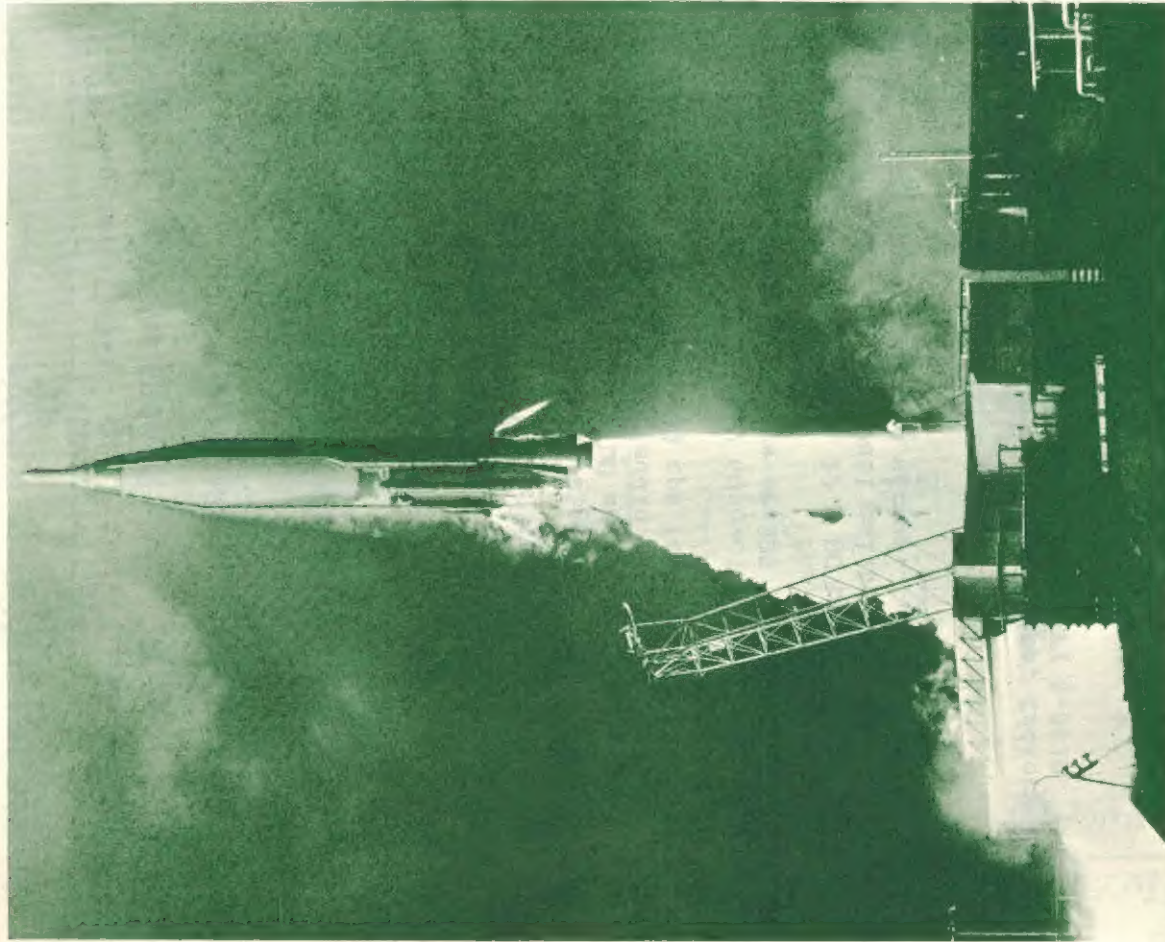
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TO REALLY WORK OUT."